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<110> Allen, Steve
Lee, Jian Ming

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<150> 60/092,438

<151> July 10, 1998

<160> 23

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<213> Zea mays

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35 40 45
Ala Thr Gly Lys Glu Phe Ala Cys Lys Ser Ile Leu Lys Xaa Leu Val
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Thr Asp Asp Asp Val Glu Asp Val Arg Arg Glu Ile Gln Ile Met His
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Asp Ala Val Ala Val
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<213> Oryza sativa

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313

[illegible]

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T07T50 T24560

DODGE
KENTON
HALL
W. A.
SOUTH
WEST
STREET
CHICAGO
ILL.

Asp Asn Phe Arg Thr Ala Leu Thr Arg Tyr Leu Thr Asp Ala Met Lys
 500 505 510
 Glu Ser Arg Val Leu Glu Phe Leu His Ala Leu Glu Pro Leu Ala Tyr
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 Arg Arg Met Asp Phe Glu Glu Phe Cys Ala Ala Ala Ile Ser Pro Tyr
 530 535 540
 Gln Leu Glu Ala Leu Glu Arg Trp Glu Glu Ile Ala Gly Thr Ala Phe
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 Gln Gln Phe Glu Gln Glu Gly Asn Arg Val Ile Ser Val Glu Glu Leu
 565 570 575
 Ala Gln Glu Leu Asn Leu Ala Pro Thr His Tyr Ser Ile Val Gln Asp
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 Phe Leu His Gly Val Thr Ile Arg Gly Ser Asn Thr Arg Arg His
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Out
313

FORF50-TE4H5600

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35 40 45

Gly Ser Val Lys Pro Asn Glu Ala Ser Ile Pro Glu Ala Ser Xaa Cys
50 55 60

Glu Leu Gly Leu Asp Lys Ser Phe Gly Phe Ala Lys Gln Phe Ser Ala
65 70 75 80

His Tyr Glu Leu Ser Asp Glu Xaa Gly Arg Gly His Phe Gly Tyr Thr
85 90 95

Cys Ser Ala Lys Gly Lys Lys Gly Ala Phe Lys Gly Leu Asn Val Ala
100 105 110

Val Lys Val Ile Pro Lys Ala Lys Met Thr Thr Ala Ile Ala Ile Glu
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Asp Val Arg Arg Glu Val Lys Ile Leu Arg Ala Leu Thr Gly His Lys
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catagacttt ggcttctctg actttgtaaa gccagatgaa aggctcaacg acattgttgg 240
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tgttggagca ttggagtaat tgcctacatt ttgcttttgt gggaaccgac tttcctgggg 360
caccacaga atccaggaat attcccagct tcccttaaag caaaaccaat tttgatgaag 420
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35 40 45

Phe Ser Ser Lys Glu Glu Asn Ser Pro Leu Lys Val Ile Asp Phe Gly
50 55 60

Leu Ser Asp Phe Val Lys Pro Asp Glu Arg Leu Asn Asp Ile Val Gly
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Ser Ala Tyr Tyr Val Ala Xaa Glu Val Leu His Arg Ser Tyr Gly Thr
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Glu Gly Asp Met Xaa Ser Ile Gly Val Ile Ala Tyr Ile Leu Leu
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aaaaaaaaaa	aaaa					1814

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5/3

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Met Ser Ile Arg Asp Asp Lys Asp Val Glu Asp Ile Val Val Asn Gly
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Asn Gly Ala Glu Pro Gly His Ile Ile Val Thr Ser Ile Asp Gly Arg
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Asn Gly Gln Ala Lys Gln Thr Ile Ser Tyr Met Ala Glu/Arg Val Val
65 70 75 80

Gly His Gly Ser Phe Gly Thr Val Phe Gln Ala Lys Cys Leu Glu Thr
85 90 95

Gly Glu Thr Val Ala Ile Lys Lys Val Leu Gln ~~Asp~~ Lys Arg Tyr Lys
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Asn Arg Glu Leu Gln Thr Met Arg Val Leu ~~Asp~~ His Pro Asn Val Val
115 120 125

Ala Leu Lys His Cys Phe Phe Ser Lys Thr Glu Lys Glu Glu Leu Tyr
130 135 140

Leu Asn Leu Val Leu Glu Tyr Val ~~Pro~~ Glu Thr Ala His Arg Val Ile
145 150 155 160

Lys His Tyr Asn Lys Met Asn ~~Gln~~ Arg Met Pro Leu Ile Tyr Ala Lys
165 170 175

Leu Tyr Met Tyr Gln Ile ~~Cys~~ Arg Ala Leu Ala Tyr Ile His Asn Ser
180 185 190

Ile Gly Val Cys His ~~Arg~~ Asp Ile Lys Pro Gln Asn Leu Leu Val Asn
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Pro His Thr His Gln Leu Lys Leu Cys Asp Phe Gly Ser Ala Lys Val
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Leu Val Lys Gly Glu Pro Asn Ile Ser Tyr Ile Cys Ser Arg Tyr Tyr
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Arg Ala ~~Pro~~ Glu Leu Ile Phe Gly Ala Thr Glu Tyr Thr Thr Ala Ile
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Asp Val Gly Ser Ala Gly Cys Val Leu Ala Glu Leu Leu Gly Gln
260 265 270

Pro Leu Phe Pro Gly Glu Ser Gly Val Asp Gln Leu Val Glu Ile Ile
275 280 285

Lys Val Leu Gly Thr Pro Thr Arg Glu Glu Ile Lys Cys Met Asn Pro
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 Asn Tyr Thr Glu Phe Lys Phe Pro Gln Ile Lys Ala His Pro Trp His
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 Lys Ile Phe His Lys Arg Met Pro Ala Glu Ala Val Asp Leu Val Ser
 325 330 335
 Arg Leu Leu Gln Tyr Ser Pro Lys Leu Arg Ser Thr Ala Leu Glu Ala
 340 345 350
 Leu Val His Pro Phe Phe Asp Glu Leu Arg Asp Pro Asn Thr Arg Leu
 355 360 365
 Pro Asn Gly Arg Phe Leu Pro Pro Leu Phe Asn Phe Lys Pro His Glu
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 Met Lys Ile Arg Asp Asp Arg Glu Met Glu Ala Thr Val Val Asp Gly
 50 55 60
 Asn Gly Thr Glu Thr Gly His Ile Ile Val Thr Thr Ile Gly Gly Arg
 65 70 75 80
 Asn Gly Gln Pro Lys Gln Thr Ile Ser Tyr Met Ala Glu Arg Val Val
 85 90 95
 Gly His Gly Ser Phe Gly Val Val Phe Gln Ala Lys Cys Leu Glu Thr
 100 105 110
 Gly Glu Thr Val Ala Ile Lys Lys Val Leu Gln Asp Lys Arg Tyr Lys
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 Asn Arg Glu Leu Gln Thr Met Arg Leu Leu Asp His Pro Asn Val Val
 130 135 140
 Ala Leu Lys His Cys Phe Phe Ser Thr Thr Glu Lys Asp Glu Leu Tyr
 145 150 155 160
 Leu Asn Leu Val Leu Glu Tyr Val Pro Glu Thr Val Asn Arg Val Ile
 165 170 175
 Lys His Tyr Asn Lys Phe Asn Gln Arg Met Pro Leu Ile Tyr Val Lys
 180 185 190
 Leu Tyr Thr Tyr Gln Ile Phe Arg Ala Leu Ser Tyr Ile His Arg Cys
 195 200 205
 Ile Gly Val Cys His Arg Asp Ile Lys Pro Gln Asn Leu Leu Val Asn
 210 215 220
 Pro His Thr His Gln Val Lys Leu Cys Asp Phe Gly Ser Ala Lys Val
 225 230 235 240
 Leu Val Lys Gly Glu Pro Asn Ile Ser Tyr Ile Cys Ser Arg Tyr Tyr
 245 250 255
 Arg Ala Pro Glu Leu Ile Phe Gly Ala Thr Glu Tyr Thr Thr Ala Ile
 260 265 270
 Asp Val Trp Ser Val Gly Cys Val Leu Ala Glu Leu Leu Leu Gly Gln
 275 280 285

TELETYPE

Pro Leu Phe Pro Gly Glu Ser Gly Val Asp Gln Leu Val Glu Ile Ile
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Lys Val Leu Gly Thr Pro Thr Arg Glu Glu Ile Lys Cys Met Asn Pro
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Asn Tyr Thr Glu Phe Lys Phe Pro Gln Ile Lys Ala His Pro Trp His
 325 330 335

Lys Ile Phe His Lys Arg Met Pro Pro Glu Ala Val Asp Leu Val Ser
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Arg Leu Leu Gln Tyr Ser Pro Asn Leu Arg Cys Thr Val Leu Asp Ala
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 ggagatggtg ggcattaaga aggtactgca ggacagacgg tacaagaacc gtgagctgca 360
 gcttatgcgt tcgatgatcc attccaatgt tgtctccctc aagcactgct tcttctcaac 420
 cacaagtaga gatgagctgt tctgaacct tgtcatggag tatgtcccg agacgctata 480
 ccgcgtgctt aagcactaca gtaatgccaa ccaggggatg ccgcttatct atgtcaagct 540
 ttacatgtat cagcttttta gagggctagc ttatgttcat actgttccag gagtttgcca 600
 cagggatgtg aaaccacaaa atgttttggt tgatcctcta acccatcaag tcaagatctg 660
 tgactttgga agtgcaaaaag ttctgggtacc tgggtgaacc aacatagcat acatatgctc 720
 tcgctactat cgtgctcctg agctcatatt tgggtgcaact gaatatacaa cttcaataga 780
 catatggtca gctggatgtg ttcttgcaaga gctacttctt ggtagcctc tgtttccagg 840
 agagactgca gttgatcagc tagtgagat tatcaagggt cttggtactc caaccctga 900
 ggaaattcgg tgcatagaac ccaactatac cgagttcagg tttctcaga ttaaggctca 960
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 ggaacatgtt cgacggcaaa atggccccaa cttcgcccat gctgggagct aaacggggcg 1260
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 aatcctgagg agagaccgat caagtgcant gccagtgccg gtgaaagaag tacaactatg 1380
 taaattacct gaccttgaa gaatcggtgt tgttgttgcc ggtgccggcc atgtttaagt 1440
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 taggaggtgg agacatatgt taatgctagg tctgtgacct gttttaagta catttttgta 1560
 atgcttggtg gtggtactgt aatgcggcaa tagctgctcc atgttttgtc cttgtcctt 1620
 gatgtaaatg tcgtcgtcct gcagcaaaaa aaaaaaaaaa aaaaaaaaaa aaa 1673

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 <213> Triticum aestivum

<400> 16

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 20 25 30
 Pro Tyr Ala Glu Gly Asn Asp Ala Met Thr Gly His Ile Ile Ser Thr
 35 40 45
 Thr Ile Gly Gly Lys Asn Gly Glu Pro Lys Gln Thr Ile Ser Tyr Met
 50 55 60
 Ala Glu Arg Val Val Gly Thr Gly Ser Phe Gly Ile Val Phe Gln Ala
 65 70 75 80
 Lys Cys Leu Glu Thr Gly Glu Met Val Gly Ile Lys Lys Val Leu Gln
 85 90 95
 Asp Arg Arg Tyr Lys Asn Arg Glu Leu Gln Leu Met Arg Ser Met Ile
 100 105 110
 His Ser Asn Val Val Ser Leu Lys His Cys Phe Phe Ser Thr Thr Ser
 115 120 125
 Arg Asp Glu Leu Phe Leu Asn Leu Val Met Glu Tyr Val Pro Glu Thr
 130 135 140
 Leu Tyr Arg Val Leu Lys His Tyr Ser Asn Ala Asn Gln Gly Met Pro
 145 150 155 160
 Leu Ile Tyr Val Lys Leu Tyr Met Tyr Gln Leu Phe Arg Gly Leu Ala
 165 170 175
 Tyr Val His Thr Val Pro Gly Val Cys His Arg Asp Val Lys Pro Gln
 180 185 190
 Asn Val Leu Val Asp Pro Leu Thr His Gln Val Lys Ile Cys Asp Phe
 195 200 205
 Gly Ser Ala Lys Val Leu Val Pro Gly Glu Pro Asn Ile Ala Tyr Ile
 210 215 220
 Cys Ser Arg Tyr Tyr Arg Ala Pro Glu Leu Ile Phe Gly Ala Thr Glu
 225 230 235 240
 Tyr Thr Thr Ser Ile Asp Ile Trp Ser Ala Gly Cys Val Leu Ala Glu
 245 250 255
 Leu Leu Leu Gly Gln Pro Leu Phe Pro Gly Glu Thr Ala Val Asp Gln
 260 265 270
 Leu Val Glu Ile Ile Lys Val Leu Gly Thr Pro Thr Arg Glu Glu Ile
 275 280 285

Arg Cys Met Asn Pro Asn Tyr Thr Glu Phe Arg Phe Pro Gln Ile Lys
 290 295 300

Ala His Pro Trp His Lys Ile Phe His Lys Arg Met Pro Ala Glu Ala
 305 310 315 320

Ile Asp Leu Ala Ser Arg Leu Leu Gln Tyr Ser Pro Asn Leu Arg Cys
 325 330 335

Thr Ala Leu Asp Ala Cys Ala His Ser Phe Phe Asp Glu Leu Arg Glu
 340 345 350

Pro Asn Ala Arg Leu Pro Asn Gly Arg Pro Phe Pro Pro Leu Phe Asn
 355 360 365

Phe Lys Pro Glu Leu Ala Asn Ala Ser Pro Glu Leu Ile Asn Arg Leu
 370 375 380

Val Pro Glu His Val Arg Arg Gln Asn Gly Pro Asn Phe Ala His Ala
 385 390 395 400

Gly Ser

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 <211> 639
 <212> PRT
 <213> Zea mays

<400> 17
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 20 25 30

Leu Pro Ala Ala Ala Asn Gly Pro Gly Gly Pro Ala Gly Ala Gly Ser
 35 40 45

Gln Ser Ala Leu Pro Lys Pro Ala Ser Asp Val His His Val Ala Val
 50 55 60

Gln Ser Glu Ala Pro Glu Pro Val Lys Ile Ala Ala Tyr His Ser Glu
 65 70 75 80

Pro Ala Pro Ala Val Arg Ser Glu Ala Pro Glu Pro Val Lys Ile Ala
 85 90 95

Ala Ser His Ser Glu Pro Ala Pro Met Ala Ala Lys Pro Gly Gly Ala
 100 105 110

Ala Ala Asn Ala Ser Pro Ser Pro Ser Pro Arg Pro Arg Pro Gln Val
 115 120 125

Lys Arg Val Ser Ser Ala Gly Leu Leu Leu Gly Ser Val Leu Arg Arg
 130 135 140

Lys Thr Glu Asn Leu Lys Asp Lys Tyr Ser Leu Gly Arg Arg Leu Gly
 145 150 155 160

Gln Gly Gln Phe Gly Thr Thr His Leu Cys Val Glu Arg Ala Thr Gly
 165 170 175
 Lys Glu Leu Ala Cys Lys Ser Ile Leu Lys Arg Lys Leu Gly Ser Asp
 180 185 190
 Asp Asp Val Glu Asp Val Arg Arg Glu Ile Gln Ile Met His His Leu
 195 200 205
 Ala Gly His Pro Ser Val Val Gly Ile Arg Gly Ala Tyr Glu Asp Ala
 210 215 220
 Val Ala Val His Leu Val Met Glu Leu Cys Gly Gly Gly Glu Leu Phe
 225 230 235 240
 Asp Arg Ile Val Arg Arg Gly His Tyr Thr Glu Arg Lys Ala Ala Glu
 245 250 255
 Leu Ala Arg Val Ile Val Gly Val Val Glu Ala Cys His Ser Met Gly
 260 265 270
 Val Met His Arg Asp Leu Lys Pro Glu Asn Phe Leu Phe Ala Asp His
 275 280 285
 Ser Glu Glu Ala Ala Leu Lys Thr Ile Asp Phe Gly Leu Ser Ile Phe
 290 295 300
 Phe Arg Pro Gly Gln Ile Phe Thr Asp Val Val Gly Ser Pro Tyr Tyr
 305 310 315 320
 Val Ala Pro Glu Val Leu Lys Lys Arg Tyr Gly Pro Glu Ala Asp Val
 325 330 335
 Trp Ser Ala Gly Val Ile Ile Tyr Ile Leu Leu Cys Gly Val Pro Pro
 340 345 350
 Phe Trp Ala Glu Asn Glu Gln Gly Ile Phe Glu Glu Val Leu His Gly
 355 360 365
 Arg Leu Asp Phe Glu Ser Glu Pro Trp Pro Ser Ile Ser Asp Gly Ala
 370 375 380
 Lys Asp Leu Val Arg Arg Met Leu Val Arg Asp Pro Arg Lys Arg Leu
 385 390 395 400
 Thr Ala His Glu Val Leu Arg His Pro Trp Val Gln Val Gly Gly Val
 405 410 415
 Ala Pro Asp Arg Pro Leu Asp Ser Ala Val Leu Ser Arg Met Lys Gln
 420 425 430
 Phe Ser Ala Met Asn Lys Leu Lys Lys Met Ala Leu Arg Val Ile Ala
 435 440 445
 Glu Asn Leu Ser Glu Asp Glu Ile Ala Gly Leu Arg Glu Met Phe Lys
 450 455 460
 Met Ile Asp Ala Asp Asn Ser Gly Gln Ile Thr Phe Glu Glu Leu Lys
 465 470 475 480

11
 213

005477 05140
 104150 1224500

Ant
313

TELETYPE

Val	Gly	Leu	Glu	Lys	Val	Gly	Ala	Asn	Leu	Gln	Glu	Ser	Glu	Ile	Tyr		
				485					490					495			
Ala	Leu	Met	Gln	Ala	Ala	Asp	Val	Asp	Asn	Asn	Gly	Thr	Ile	Asp	Tyr		
			500					505					510				
Gly	Glu	Phe	Ile	Ala	Ala	Thr	Leu	His	Leu	Asn	Lys	Val	Glu	Arg	Glu		
		515					520					525					
Asp	His	Leu	Phe	Ala	Ala	Phe	Gln	Tyr	Phe	Asp	Lys	Asp	Gly	Ser	Gly		
	530					535					540						
Tyr	Ile	Thr	Ala	Asp	Glu	Leu	Gln	Val	Ala	Cys	Glu	Glu	Phe	Gly	Leu		
545					550					555					560		
Gly	Asp	Val	Gln	Leu	Glu	Asp	Leu	Ile	Gly	Glu	Val	Asp	Gln	Asp	Asn		
			565						570					575			
Asp	Gly	Arg	Ile	Asp	Tyr	Asn	Glu	Phe	Val	Ala	Met	Met	Gln	Lys	Pro		
		580						585					590				
Thr	Val	Gly	Gly	Ser	Arg	Arg	Arg	Pro	Ile	Cys	Arg	Thr	Ala	Ser	Ala		
		595					600					605					
Ser	Gly	Ser	Ala	Ser	Gly	Ser	Gly	Arg	Arg	Ser	Gly	Trp	Pro	Arg	Pro		
	610					615					620						
Leu	Cys	Leu	Trp	Leu	Pro	Cys	Cys	Leu	Arg	Val	Gly	Val	Asp	Asp			
625					630					635							
<210>	18																
<211>	625																
<212>	PRT																
<213>	Zea mays																
<400>	18																
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His	Asp	Ala	Asp	Pro	Ser	Gly	Ala	Gly	Ser	Val	Ala	Pro	Pro	Ser	Pro		
			20					25					30				
Leu	Pro	Ala	Asn	Gly	Ala	Pro	Leu	Pro	Ala	Thr	Pro	Arg	Arg	His	Lys		
		35					40					45					
Ser	Gly	Ser	Thr	Thr	Pro	Val	His	His	His	Gln	Ala	Ala	Thr	Pro	Gly		
	50					55				60							
Ala	Ala	Ala	Trp	Pro	Ser	Pro	Tyr	Pro	Ala	Gly	Gly	Ala	Ser	Pro	Leu		
65				70						75				80			
Pro	Ala	Gly	Val	Ser	Pro	Ser	Pro	Ala	Arg	Ser	Thr	Pro	Arg	Arg	Phe		
				85					90					95			
Phe	Lys	Arg	Pro	Phe	Pro	Pro	Pro	Ser	Pro	Ala	Lys	His	Ile	Lys	Ala		
		100						105					110				
Thr	Leu	Ala	Lys	Arg	Leu	Gly	Gly	Gly	Lys	Pro	Lys	Glu	Gly	Thr	Ile		
		115					120					125					

Out
313

104750-1224560

Pro Glu Glu Gly Gly Ala Gly Ala Gly Ala Gly Ala Gly Ala Gly Ala
130 135 140

Gly Ala Ala Val Gly Ala Ala Asp Ser Ala Glu Ala Asp Arg Pro Leu
145 150 155 160

Asp Lys Thr Phe Gly Phe Ala Lys Asn Phe Gly Ala Lys Tyr Asp Leu
165 170 175

Gly Lys Glu Val Gly Arg Gly His Phe Gly His Thr Cys Ser Ala Val
180 185 190

Val Lys Lys Gly Glu His Lys Gly His Thr Val Ala Val Lys Ile Ile
195 200 205

Ser Lys Ala Lys Met Thr Thr Ala Ile Ser Ile Glu Asp Val Arg Arg
210 215 220

Glu Val Lys Ile Leu Lys Ala Leu Ser Gly His Asp Asn Leu Val Arg
225 230 235 240

Phe Tyr Asp Ala Cys Glu Asp Ala Leu Asn Val Tyr Ile Val Met Glu
245 250 255

Leu Cys Glu Gly Gly Glu Leu Leu Asp Arg Ile Leu Ala Arg Gly Gly
260 265 270

Arg Tyr Thr Glu Glu Asp Ala Lys Ala Ile Ile Val Gln Ile Leu Ser
275 280 285

Val Val Ala Phe Cys His Leu Gln Gly Val Val His Arg Asp Leu Lys
290 295 300

Pro Glu Asn Phe Leu Phe Thr Thr Arg Asp Glu Ser Ala Pro Met Lys
305 310 315 320

Leu Ile Asp Phe Gly Leu Ser Asp Phe Ile Arg Pro Asp Glu Arg Leu
325 330 335

Asn Asp Ile Val Gly Ser Ala Tyr Tyr Val Ala Pro Glu Val Leu His
340 345 350

Arg Ser Tyr Ser Met Glu Ala Asp Ile Trp Ser Ile Gly Val Ile Thr
355 360 365

Tyr Ile Leu Leu Cys Gly Ser Arg Pro Phe Trp Ala Arg Thr Glu Ser
370 375 380

Gly Ile Phe Arg Ser Val Leu Arg Ala Asp Pro Asn Phe Asp Asp Ser
385 390 395 400

Pro Trp Pro Ser Val Ser Ala Glu Ala Lys Asp Phe Val Lys Arg Phe
405 410 415

Leu Asn Lys Asp Tyr Arg Lys Arg Met Thr Ala Val Gln Ala Leu Thr
420 425 430

His Pro Trp Leu Arg Asp Glu Gln Arg Gln Ile Pro Leu Asp Ile Leu
435 440 445

Ant
313

TELETYPE

Ile Phe Arg Leu Val Lys Gln Tyr Leu Arg Ala Thr Pro Leu Lys Arg
450 455 460

Leu Ala Leu Lys Ala Leu Ser Lys Ala Leu Ser Glu Asp Glu Leu Leu
465 470 475 480

Tyr Leu Arg Leu Gln Phe Lys Leu Leu Glu Pro Arg Asp Gly Phe Val
485 490 495

Ser Leu Asp Asn Phe Arg Thr Ala Leu Thr Arg Tyr Ser Thr Asp Ala
500 505 510

Met Arg Glu Ser Arg Val Leu Glu Phe Gln His Ala Leu Glu Pro Leu
515 520 525

Ala Tyr Arg Lys Met Asp Phe Glu Glu Phe Cys Ala Ala Ala Ile Ser
530 535 540

Pro Tyr Gln Leu Glu Ala Leu Glu Arg Trp Glu Glu Ile Ala Gly Thr
545 550 555 560

Ala Phe Gln His Phe Glu Gln Glu Gly Asn Arg Val Ile Ser Val Glu
565 570 575

Glu Leu Ala Gln Glu Leu Asn Leu Ala Pro Thr His Tyr Ser Ile Val
580 585 590

Gln Asp Trp Ile Arg Lys Ser Asp Gly Lys Leu Asn Phe Leu Gly Phe
595 600 605

Thr Lys Phe Leu His Gly Val Thr Ile Arg Gly Ser Asn Thr Arg Arg
610 615 620

His
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<211> 576
<212> PRT
<213> Arabidopsis thaliana

<400> 19
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Pro Val Ser Gly Glu Thr Asn Glu Ala Pro Thr Asn Ser Gln Pro Pro
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Ala Lys Ser Ser Gly Phe Pro Phe Tyr Ser Pro Ser Pro Val Pro Ser
35 40 45

Leu Phe Lys Ser Ser Pro Ser Val Ser Ser Ser Val Ser Ser Thr Pro
50 55 60

Leu Arg Ile Phe Lys Arg Pro Phe Pro Pro Pro Ser Pro Ala Lys His
65 70 75 80

Ile Arg Ala Phe Leu Ala Arg Arg Tyr Gly Ser Val Lys Pro Asn Glu
85 90 95

Cont
313

00054721 DE 140
T 107150 T 224500

Val Ser Ile Pro Glu Gly Lys Glu Cys Glu Ile Gly Leu Asp Lys Ser
100 105 110

Phe Gly Phe Ser Lys Gln Phe Ala Ser His Tyr Glu Ile Asp Gly Glu
115 120 125

Val Gly Arg Gly His Phe Gly Tyr Thr Cys Ser Ala Lys Gly Lys Lys
130 135 140

Gly Ser Leu Lys Gly Gln Glu Val Ala Val Lys Val Ile Pro Lys Ser
145 150 155 160

Lys Met Thr Thr Ala Ile Ala Ile Glu Asp Val Ser Arg Glu Val Lys
165 170 175

Met Leu Arg Ala Leu Thr Gly His Lys Asn Leu Val Gln Phe Tyr Asp
180 185 190

Ala Phe Glu Asp Asp Glu Asn Val Tyr Ile Val Met Glu Leu Cys Lys
195 200 205

Gly Gly Glu Leu Leu Asp Lys Ile Leu Gln Arg Gly Gly Lys Tyr Ser
210 215 220

Glu Asp Asp Ala Lys Lys Val Met Val Gln Ile Leu Ser Val Val Ala
225 230 235 240

Tyr Cys His Leu Gln Gly Val Val His Arg Asp Leu Lys Pro Glu Asn
245 250 255

Phe Leu Phe Ser Thr Lys Asp Glu Thr Ser Pro Leu Lys Ala Ile Asp
260 265 270

Phe Gly Leu Ser Asp Tyr Val Lys Pro Asp Glu Arg Leu Asn Asp Ile
275 280 285

Val Gly Ser Ala Tyr Tyr Val Ala Pro Glu Val Leu His Arg Thr Tyr
290 295 300

Gly Thr Glu Ala Asp Met Trp Ser Ile Gly Val Ile Ala Tyr Ile Leu
305 310 315 320

Leu Cys Gly Ser Arg Pro Phe Trp Ala Arg Thr Glu Ser Gly Ile Phe
325 330 335

Arg Ala Val Leu Lys Ala Glu Pro Asn Phe Glu Glu Ala Pro Trp Pro
340 345 350

Ser Leu Ser Pro Glu Ala Val Asp Phe Val Lys Arg Leu Leu Asn Lys
355 360 365

Asp Tyr Arg Lys Arg Leu Thr Ala Ala Gln Ala Leu Cys His Pro Trp
370 375 380

Leu Val Gly Ser His Glu Leu Lys Ile Pro Ser Asp Met Ile Ile Tyr
385 390 395 400

Lys Leu Val Lys Val Tyr Ile Met Ser Thr Ser Leu Arg Lys Ser Ala
405 410 415

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Leu Ala Ala Leu Ala Lys Thr Leu Thr Val Pro Gln Leu Ala Tyr Leu
      420                      425                      430

Arg Glu Gln Phe Thr Leu Leu Gly Pro Ser Lys Asn Gly Tyr Ile Ser
      435                      440                      445

Met Gln Asn Tyr Lys Thr Ala Ile Leu Lys Ser Ser Thr Asp Ala Met
      450                      455                      460

Lys Asp Ser Arg Val Phe Asp Phe Val His Met Ile Ser Cys Leu Gln
      465                      470                      475                      480

Tyr Lys Lys Leu Asp Phe Glu Glu Phe Cys Ala Ser Ala Leu Ser Val
      485                      490                      495

Tyr Gln Leu Glu Ala Met Glu Thr Trp Glu Gln His Ala Arg Arg Ala
      500                      505                      510

Tyr Glu Leu Phe Glu Lys Asp Gly Asn Arg Pro Ile Met Ile Glu Glu
      515                      520                      525

Leu Ala Ser Glu Leu Gly Leu Gly Pro Ser Val Pro Val His Val Val
      530                      535                      540

Leu Gln Asp Trp Ile Arg His Ser Asp Gly Lys Leu Ser Phe Leu Gly
      545                      550                      555                      560

Phe Val Arg Leu Leu His Gly Val Ser Ser Arg Thr Leu Gln Lys Ala
      565                      570                      575

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<212> PRT
<213> Arabidopsis thaliana

<400> 20
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Gly Val Asp Lys Leu Pro Glu Glu Met Asn Asp Met Lys Ile Arg Asp
      20                      25                      30

Asp Lys Glu Met Glu Ala Thr Val Val Asp Gly Asn Gly Thr Glu Thr
      35                      40                      45

Gly His Ile Ile Val Thr Thr Ile Gly Gly Arg Asn Gly Gln Pro Lys
      50                      55                      60

Gln Thr Ile Ser Tyr Met Ala Glu Arg Val Val Gly His Gly Ser Phe
      65                      70                      75                      80

Gly Val Val Phe Gln Ala Lys Cys Leu Glu Thr Gly Glu Thr Val Ala
      85                      90                      95

le Lys Lys Val Leu Gln Asp Arg Arg Tyr Lys Asn Arg Glu Leu Gln
      100                      105                      110

hr Met Arg Leu Leu Asp His Pro Asn Val Val Ser Leu Lys His Cys
      115                      120                      125

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~~<213> Medicago sativa~~

Lab
B13

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Pro Asn Tyr Thr Glu Phe Lys Phe Pro Gln Ile Lys Ala His Pro Trp
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His Lys Ile Phe His Lys Arg Met Pro Pro Glu Ala Val Asp Leu Val
325 330 335

Ser Arg Leu Leu Gln Tyr Ser Pro Asn Leu Arg Ser Thr Ala Leu Glu
340 345 350

Ala Leu Val His Pro Phe Tyr Asp Asp Val Arg Asp Pro Asn Thr Arg
355 360 365

Leu Pro Asn Gly Arg Phe Leu Pro Pro Leu Phe Asn Phe Lys Val Asn
370 375 380

Glu Leu Lys Gly Val Pro Ala Glu Met Leu Val Lys Leu Val Pro Pro
385 390 395 400

His Ala Arg Lys Gln Cys Ala Leu Phe Gly Ser Ser
405 410

<210> 22

<211> 411

<212> PRT

<213> Medicago sativa

<400> 22

Met Ala Ser Val Gly Val Ala Pro Thr Ser Gly Phe Arg Glu Val Leu
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Gly Asp Gly Glu Ile Gly Val Asp Asp Ile Leu Pro Glu Glu Met Ser
20 25 30

Asp Met Lys Ile Arg Asp Asp Arg Glu Met Glu Ala Thr Val Val Asp
35 40 45

Gly Asn Gly Thr Glu Thr Gly His Ile Ile Val Thr Thr Ile Gly Gly
50 55 60

Arg Asn Gly Gln Pro Lys Gln Thr Ile Ser Tyr Met Ala Glu Arg Val
65 70 75 80

Val Gly His Gly Ser Phe Gly Val Val Phe Gln Ala Lys Cys Leu Glu
85 90 95

Thr Gly Glu Thr Val Ala Ile Lys Lys Val Leu Gln Asp Lys Arg Tyr
100 105 110

Lys Asn Arg Glu Leu Gln Thr Met Arg Leu Leu Asp His Pro Asn Val
115 120 125

Val Ser Leu Lys His Cys Phe Phe Ser Thr Thr Glu Lys Asp Glu Leu
130 135 140

Tyr Leu Asn Leu Val Leu Glu Tyr Val Pro Glu Thr Val His Arg Val
145 150 155 160

Ile Lys His Tyr Ser Lys Leu Asn Gln Arg Met Pro Met Ile Tyr Val
165 170 175

Lys Leu Tyr Thr Tyr Gln Ile Phe Arg Ala Leu Ser Tyr Ile His Arg
180 185 190

Cont
B13

TELEPHONE

Cys Ile Gly Val Cys His Arg Asp Ile Lys Pro Gln Asn Leu Leu Val
195 200 205

Asn Pro His Thr His Gln Val Lys Leu Cys Asp Phe Gly Ser Ala Lys
210 215 220

Val Leu Val Lys Gly Glu Pro Asn Ile Ser Tyr Ile Cys Ser Arg Tyr
225 230 235 240

Tyr Arg Ala Pro Glu Leu Ile Phe Gly Ala Thr Glu Tyr Thr Thr Ala
245 250 255

Ile Asp Val Trp Ser Val Gly Cys Val Leu Ala Glu Leu Leu Leu Gly
260 265 270

Gln Pro Leu Phe Pro Gly Glu Arg Gly Val Asp Gln Leu Val Glu Ile
275 280 285

Ile Lys Val Leu Gly Thr Pro Thr Arg Glu Glu Ile Lys Cys Met Asn
290 295 300

Pro Asn Tyr Thr Glu Phe Lys Phe Pro Gln Ile Lys Ala His Pro Trp
305 310 315 320

His Lys Ile Phe His Lys Arg Met Pro Ala Glu Ala Val Asp Leu Val
325 330 335

Ser Arg Leu Leu Gln Tyr Ser Pro Asn Leu Arg Cys Gln Ala Leu Asp
340 345 350

Cys Leu Thr His Pro Phe Phe Asp Glu Leu Arg Asp Pro Asn Ala Arg
355 360 365

Leu Pro Thr Gly Arg Phe Leu Pro Pro Leu Phe Asn Phe Lys Pro His
370 375 380

Glu Leu Lys Gly Val Pro Val Glu Thr Leu Met Lys Leu Val Pro Glu
385 390 395 400

His Ala Arg Lys Gln Cys Pro Phe Leu Gly Leu
405 410

<210> 23
<211> 407
<212> PRT
<213> Arabidopsis thaliana

<400> 23
Met Ala Ser Leu Pro Leu Gly Pro Gln Pro His Ala Leu Ala Pro Pro
1 5 10 15

Leu Gln Leu His Asp Gly Asp Ala Leu Lys Arg Arg Pro Glu Leu Asp
20 25 30

Ser Asp Lys Glu Met Ser Ala Ala Val Ile Glu Gly Asn Asp Ala Val
35 40 45

Thr Gly His Ile Ile Ser Thr Thr Ile Gly Gly Lys Asn Gly Glu Pro
50 55 60

/Pro	Leu	Pro	Pro	Leu	Phe	Asn	Phe	Lys	Gln	Glu	Leu	Gly	Gly	Ala	Ser
	370					375					380				

Cont.
FVB

SECRET

Ser Thr Gly Leu Gln Asn Ser
405

Cont
B13

[illegible]